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(54) **METHOD FOR FORMING A DMOS DEVICE
AND A DMOS DEVICE**

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(58) **Field of Search** 438/276, 275,
438/288, 289-291, 301-307, 514, 517-519,
525-527, 531; 257/335, 368, 378

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(57) **ABSTRACT**

A method for forming an LDNMOS (1) and LDPMOS (2) in a CMOS process comprises forming the LDNMOS (1) and LDPMOS (2) to a stage where a gate (14) is laid down on a gate oxide layer (12) and a locos (9) is formed over the respective N and P-wells (4) and (5) of the LDNMOS (1) and LDPMOS (2). A P-body (15) is formed in the N-well (4) of the LDNMOS (1) by implanting a boron dopant in two stages, in the first stage at a first tilt angle (θ) of 45° for forming the P-body (15) beneath the gate (14) for determining the source/drain threshold voltage, and subsequently at a second tilt angle (ϕ) of 7° for extending the P-body (15) downwardly at (25) for determining the punchthrough breakdown voltage of the LDNMOS (1). The formation of an N-body (16) in a P-well (5) of the LDPMOS (2) is similar to the formation of the P-body (15) with the exception that the dopant is a phosphorous dopant.

15 Claims, 4 Drawing Sheets

